said marking is effected by setting header information in said message to a value corresponding to the service category;

said marking is effected by setting Differentiated Service code points using the Differentiated Service bit field in the message header, (such as e.g. the IP (Internet Protocol) message header);

said marking is effected by setting transport protocol port numbers to a value corresponding to the service category;

said routing indicator to which said marking is mapped is a traffic flow template TFT;

said different service categories are indicated by a service type identifier included in the message, and said analyzing is based on said service identifier;

at a network node receiving said message there is defined a profile for each message type adapted to allocate a service category to each received message, and said analyzing is based on said profile,

defining said specific contexts for messages of said protocol comprises the steps of: configuring part of mapping information allocating marking information to corresponding routing indicator information in response to a context activation request from said terminal to an access node of said data network,

said context activation request is detected at said access node as a first context activation request and configuring is effected based on the fact that a first request is a request for a predetermined context,

said context activation request indicates the requested context and configuring is effected based on the detected requested context,

there are furthermore provided the steps of returning marking information used for marking packets from said data network to said terminal in response to a previous request from said terminal to said data network, subsequently requesting, from said terminal to said data network, the activation of a context using the marking information returned to said terminal in said returning step, and configuring part of mapping information using the returned marking information.

According to the present invention, this object is for example achieved by a data network control entity for use in a data network, wherein messages of a specific protocol are handled using defined specific contexts for messages of said protocol, and wherein messages based on the same specific protocol relate to different service categories, said entity comprising a transmission means adapted to receive a message at said network entity, an analyzing means adapted to analyze said service category of said received message, a marking means adapted to mark packets based on a result of said analysis by said analyzing means, wherein said transmission means is further adapted to forward said marked packets to a data network access node.

According to favorable refinements of said control entity,

said marking means is further adapted to mark said message-dependent on the analyzed service category,

said marking is effected by setting header information in said message to a value corresponding to the service category,

said marking is effected by setting Differentiated Service CodePoints using the Differentiated Service bit field in the message header,

said marking is effected by setting transport protocol port numbers to a value corresponding to the service category.

According to the present invention, this object is for example achieved by a data network access node for use in a data network, wherein messages of a specific protocol are handled using defined specific contexts for messages of said protocol, and wherein messages based on the same specific protocol relate to different service categories, said node comprising a transmission means adapted to receive marked packets from a data network control entity, a mapping means adapted to map a marking of a received packet to a routing indicator, and an assigning means adapted to assign a specific context to said message dependent on the mapped routing indicator.

According to a favorable refinement of said node, said routing indicator to which said marking is mapped is a traffic flow template TFT.

Moreover, according to the present invention, this object is for example also achieved by a data network comprising at least a data network control entity according to the above, and at least a data network access node according to the above.

By virtue of the present invention being implemented in a data network, the following advantages can be achieved:

it can be avoided that all SIP traffic is going through a signaling PDP context,

the use of SIP signaling messages can be controlled,

if non-signaling (e.g. no call establishment) related SIP messages are used, these can be made to go through a non-signaling PDP context,

PDP contexts can be distinguished based on DifferentiatedService Codepoints (DiffServ Codepoints and/or DS Codepoints), and QoS for different SIP messages can be assigned based on the DiffServ Codepoints,

real-time traffic can be separated from non-real-time traffic in terms of the context used for the respective traffic,

messages of a specific protocol type can thus be distributed to several simultaneous contexts,

the terminal can be informed about the packet marking practice of the network.

Stated in other words, according to the present invention, SIP messages which do not require enhanced QoS (as required for (real-time) signaling) are not carried on the signaling PDP context. The UE may activate another PDP context for those messages (requiring non-real-time QoS). The UE, however, is provided with information from the network in order to set the traffic flow templates TFTs of those PDP contexts correctly. With correct TFTs, GGSN/APN can send SIP messages requiring real-time QoS, e.g. those related to session setup on a different PDP context than SIP messages not requiring real-time QoS, e.g. those related to other services (such as push services).

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will subsequently be described in detail with reference to examples as illustrated in the accompanying drawings, in which

FIG. **1** schematically shows a user equipment and network entities involved in connection with the present invention and corresponding signaling/method steps;

FIG. **2** shows a first signaling scenario in connection with the present invention for correctly setting TFTs;

FIG. **3** shows a second signaling scenario in connection with the present invention for correctly setting TFTs; and

FIG. **4** shows a third signaling scenario in connection with the present invention for correctly setting TFTs.